

CHAPTER 5: ACTIONS TO ACHIEVE OUR GOALS

Chapter 5: Actions to Achieve Our Goals

What actions are needed to achieve our goals for Chinook salmon?

This chapter describes action recommendations intended to prevent further decline of Chinook salmon habitat and restore Chinook salmon habitat that is now degraded. The action recommendations were developed for all the geographic subareas used by each of our three Chinook populations: areas used for spawning and rearing, as well as the migratory and rearing corridors they use to travel to and from the ocean (Lake Washington, Lake Sammamish, Sammamish River, Lake Union, Ship Canal, Locks, and Nearshore).

The habitat actions were developed through a collaborative, bottoms-up process that involved extensive participation of local stakeholders, jurisdiction staff, environmental and business representatives, project experts, and the WRIA 8 Technical Committee. The actions were developed using the following guidance:

- Steering Committee Mission and Goals (provided in Chapter 1)
- Conservation strategy and technical hypotheses (see Chapters 3 and 4)
- The Near-Term Action Agenda published August, 2002, and other existing local and regional habitat protection and restoration efforts (Cedar River Legacy, Waterways, etc.)
- Expert opinion of stakeholders participating on working committees

Application of this guidance resulted in the “start-list” and “comprehensive” action lists described later in this chapter and provided in Chapters 9 through 15. The action lists are grouped by Chinook population in the following order: Cedar, North Lake Washington, Issaquah, and Migratory/rearing corridors. Within each population, the actions are then grouped according to the three broad categories described below. (A brief description of the Steering Committee and technical guidance and how it was used to develop the actions is provided in the next section, followed by a description of the two types of action lists.)

- **Land use, planning and infrastructure:** actions that address habitat-forming processes at a landscape scale, and focus on protecting what's in place. Actions include incentive programs, regulations, best management practices (BMPs), programs, and policies, and address landscape features or processes such as: forest cover, road crossings, natural flow regimes, and movement of sediments.
- **Site-specific habitat protection and restoration projects:** actions which protect or restore a specific area or parcel, through conservation easements or acquisition; or, restoration projects such as levee setbacks, revegetation, or adding large woody debris. There are also more general, subarea-wide recommendations that should lead to additional site-specific project recommendations in the future.
- **Public outreach and education:** actions that support the land use and site-specific actions or educate and promote behavior that affects habitat health. They can apply at a specific location, to a particular target audience, and basinwide, and range from regional marketing campaigns, to workshops for creekside landowners or industry professionals, to utility incentive programs.

WRIA 8 Steering Committee Guidance

The WRIA 8 Steering Committee has provided guidance on how actions should be developed, both in its mission and goal statements adopted in 1999, and during ten six-hour work sessions held in 2004 and early 2005. During the last two work sessions, the Steering Committee reviewed changes to the action lists which were proposed during the public review process. The start-list and comprehensive lists which appear in Chapters 9 through 15 reflect this public input; key messages from the public comments are summarized later in this chapter.

While the entire Steering Committee mission and goal statements guide the development of a science-based plan, several elements give specific guidance to the three action categories.

Steering Committee Guidance for Land Use Actions

The Steering Committee mission and goal statements state that the salmon conservation plan shall:

- ✓ Recognize that local governments are key implementing entities for the plan, because of their responsibilities for land use
- ✓ Direct most future population growth to already urbanized areas, because new development has greater negative effects on hydrology and ecological health of streams in rural than in urban areas
- ✓ Create incentives for behavior that would support plan goals
- ✓ Be coordinated with the Growth Management Act, local and regional responses to the Clean Water Act, other environmental laws and past/current planning efforts.

The Steering Committee gave additional guidance about land use actions at their work sessions during spring 2004:

- ✓ Land use actions should be part of the plan, including specific recommendations in Tier 1 and Tier 2 subareas and a menu of land use tools that could be applied WRIA-wide
- ✓ Land use actions should not be required; however, the potential risks to Chinook habitat if recommended land use actions are *not* accomplished should be assessed
- ✓ Actions should be linked to specific science-based outcomes, and a variety of approaches should be included to meet those outcomes (see Appendix D, Parts 5 and 6 for a menu of land use actions and references about low impact development, critical areas and other land use topics)

Steering Committee Guidance for Site-Specific Projects

The development of site-specific habitat protection and restoration projects was guided by the Chinook conservation strategy, which was guided by the WRIA 8 Steering Committee mission and goal statements, detailed in Chapter 1.

At their work sessions, the Steering Committee provided additional guidance on development and prioritization of site-specific habitat protection and restoration projects:

- Use subarea experts to qualitatively evaluate potential habitat protection and restoration projects for their “benefits to Chinook” and “feasibility” (approved criteria in Appendix D)

- Keep all potential projects on the list for this draft, even if evaluated as low “benefit to Chinook” or low “feasibility” by subarea experts
- Identify restoration projects for the Issaquah population, but do not prioritize them until more data are collected and analyzed to ensure a better understanding of the genetics and interrelation of WRIA 8’s Chinook populations
- Use both EDT modeling results (in particular, the habitat diversity index) and existing science-based habitat protection programs, such as Waterways and Cedar River Legacy, to prioritize potential, site-specific habitat protection projects

Steering Committee Guidance for Public Outreach/Education Actions

The Steering Committee mission and goal statements say the plan shall:

- ✓ Provide multiple opportunities during plan development for two-way dialog with the public and affected constituencies because the plan cannot succeed without their understanding and support
- ✓ Recognize that long-term salmon conservation requires that the public understands and appreciates how everyday actions affect salmon
- ✓ Emphasize education and public involvement, including the widespread use of volunteers to protect and restore habitat

At their work sessions, the Steering Committee provided additional guidance on the role of public involvement in developing the plan, and the importance of education actions:

- ✓ A marketing plan is needed to build interest in and support for the conservation plan, prior to its release to the public. Support for the plan will be needed from the general public as well as special interest groups. Outreach efforts need to be extended to elected officials, city staff, special interest groups, and the media, as well as various sectors of the public
- ✓ Before we can expect the public to take any interest in helping to develop a salmon conservation plan they need to be made aware that a problem exists, upon which they have a direct effect. People are less motivated to take action on things they feel they have no control over than ones they can influence. We need to convey the issues and why the public should care
- ✓ One of most important roles of public outreach is heightening awareness about the fact that everyone within the watershed has a role in the health of salmon and water quality. Our job in the outreach and education arena is largely to reinforce the “we all live downstream” mantra – and translate it into individual messages through easily digestible sound bites

Summary of Technical Guidance

As stated above, the conservation strategy provides the framework for development of actions for this plan. The conservation strategy is founded on basic ecosystem objectives, such as the following:

- Protect and restore habitat Chinook salmon use during all of the life stages that are spent in the WRIA 8 watershed, from egg to fry to smolt to adult
- Protect and restore the natural processes that create this habitat, such as natural flow regimes and the movement of sediments and spawning gravels
- Maintain a well-dispersed network of high-quality habitat to serve as centers for the population
- Provide safe connections between those habitat centers to allow for future expansion.

The conservation strategy also provides guidance that infers how actions should be prioritized overall—where actions should be focused first. The technical framework was developed in part using NOAA Fisheries documents developed for the purpose of establishing ESA delisting goals, and assessing what is needed for viable Chinook populations so that watersheds can ensure the availability of enough habitat to sustain salmonids through a variety of environmental and other changes. The framework, which assesses the relative risk to the long-term viability of WRIA 8 Chinook salmon, determined that all three Chinook salmon populations are at extremely high risk of extinction. Consequently, habitat actions are needed to address all three populations. However, the Technical Committee has hypothesized that the Cedar population is at the highest relative risk, followed by the NLW population, then Issaquah. This risk assessment can provide guidance for priorities for WRIA 8 Chinook populations and corresponding geographic areas. *Overall, the conservation strategy recommends that conservation actions focus on areas used by the Cedar Chinook population as first priority, followed by the NLW population, and then Issaquah, due to the potential for changes in the evaluation of risks faced by each population. (This strategy could change pending results of the genetics study now in progress, due to the potential for changes in the evaluation of risks faced by each population.)*

The watershed evaluation tool used for the conservation strategy aids in identification of actions for the geographic subareas within each population. The analysis divided areas used by each of the three populations into tiers, based on relative watershed condition and Chinook abundance and use. In general, Tier 1 areas have the relatively highest quality habitat and highest fish abundance and/or use, while Tier 3 areas have the relatively most degraded habitat and infrequent Chinook use. *From a priority standpoint, actions in Tier 1 subareas generally are higher priority than Tier 2, but Tier 2 actions are needed in many subareas to increase spatial structure or diversity. The technical recommendations emphasize the importance of spatially expanding the populations into Tier 2 areas over the long-term to reduce the risk posed by having key life stages such as spawning and rearing occur in only one stream or stream segment. However, because actions are needed at the landscape scale to protect and restore watershed processes that create and maintain Chinook habitat for all life stages, it is essential that land use and public outreach actions are implemented in all three Tiers.*

In general, actions recommended for the Tier 1 subareas aim to protect and restore existing high quality habitat, and the landscape processes that create and sustain that habitat. Actions recommended for Tier 2 subareas focus on protecting what's left as well as restoring habitat to Tier 1 conditions. Actions recommended in Tier 3 focus on improving and restoring water quality and natural hydrological processes (stormwater and instream flows).

Lastly, the modeling phase of the technical work resulted in restoration and protection priorities at both the landscape scale and reach scale. The reach scale information was used for prioritizing individual site-specific actions, as described later in this chapter.

The conservation strategy identified for WRIA 8 Chinook salmon habitat can be summarized as follows:

Cedar Population

Objectives of actions:

- Protect and restore habitat to increase numbers of Chinook salmon
- Improve mainstem river habitat so that it is better able to support juvenile rearing
- Increase opportunities for Chinook to spawn and rear in Tier 2 subareas, such as the Upper Cedar River and tributaries to the Lower and Middle Cedar subareas
- Actions need to be taken in both the Lower Cedar River and Middle Cedar River
 - The Middle Cedar River is an area of higher habitat function than the Lower Cedar River
 - Actions in the Lower Cedar River help to increase the abundance and productivity (numbers and reproduction rate) of the Cedar River Chinook population and actions in the Middle Cedar River help to increase their spatial diversity.

Focus of actions

- Protect water quality
- Protect and restore instream flows
- Protect and restore riparian habitat
- Remove or setback levees and revetments to restore connections with off-channel habitat
- Restore sources of large, woody debris (LWD) and install new LWD to restore pool habitat areas

North Lake Washington Population

Objectives of actions:

- Protect and restore habitat to increase the productivity of Chinook salmon spawning in Bear and Cottage Creeks
- Expand distribution of Chinook salmon into Tier 2 subareas and reduce risk of relying solely on Bear Creek for spawning
- Actions need to be taken in Lower Bear Creek, Upper Bear Creek and Cottage/Cold Creeks
 - Upper Bear Creek and Cottage/Cold Creeks are areas of higher habitat function than Lower Bear Creek.

Focus of actions:

- Protect and restore water quality (reduce sediments and high water temperature)
- Protect natural hydrological processes (protect forest cover and headwaters)
- Protect and restore riparian habitats
- Reduce bed and bank scour from high stormwater runoff flows
- Reduce confinement of the channel
- Restore sources of LWD and install new LWD to provide juveniles with refuge from predators

Issaquah Population

Objectives of actions:

- Protect existing habitat and ecosystem processes
- Reduce risks of hatchery strays to other populations
- Issaquah Creek and its Tier I tributaries have been divided into Lower Issaquah Creek, Middle Issaquah Creek, Carey/Holder Creeks, North Fork, East Fork and Fifteenmile Creek

- Actions need to be taken in all of these areas.
- Carey/Holder Creeks, Middle Issaquah, Fifteenmile Creek and North Fork are areas of higher habitat function than Lower Issaquah and East Fork Issaquah.

Focus of actions:

- Protect existing habitat and processes, such as water quality, forest cover, riparian cover, large woody debris, and channel connectivity
- Hold on restoration actions until additional guidance from NOAA and others as to how would affect other populations due to hatchery strays

Migratory and Rearing Corridors

Objectives of actions:

- Reduce predation on juvenile migrants in Lake Washington by providing increased rearing and refuge opportunities
- Protect and restore natural estuary and nearshore processes

Focus of Actions:

Lake Washington and Lake Sammamish

- Restore shallow water habitats and creek mouths for juvenile rearing and migration

Sammamish River

- Restore floodplain connections, channel connectivity, and channel meanders
- Restore backwater pools, large woody debris, and riparian vegetation

Ship Canal/Locks

- Reduce high temperatures and restore shallow water habitats
- Continue to improve fish passage through Locks and Ship Canal

Nearshore/Estuary

- Restore feeder bluffs
- Restore stream “pocket” estuaries
- Remove armoring
- Restore marine riparian vegetation
- Restore riparian vegetation and freshwater mixing zone to provide cover and refuge to Chinook downstream of the Locks

Table 1 on the following pages describes the Technical Committee's assumptions about the linkages between habitat conservation recommendations, proposed actions, and the viable salmonid population guidance developed by NOAA Fisheries. This table is intended to help answer the following questions posed by the Puget Sound Technical Recovery Team: What is the basis for the proposed set of habitat actions? How do proposed actions address the population parameters? The table provides examples for three geographic areas; these linkages apply to similar actions in other geographic areas.

The graphics at the end of this chapter illustrate some of the natural processes that need to be protected and restored and offer examples of the landscape scale and site-specific actions needed to protect or restore these natural processes. There are graphics for each of the three populations and for the migrating/rearing areas.

Chapter 5: Actions to Achieve Our Goals

Table 1. Assumptions about linkages between Technical Committee habitat conservation hypotheses, proposed actions, and Viable Salmonid Population parameters

Area	Draft Conservation Hypothesis	Sample Action from Start list (see Chapter 9 for more information)	Viable Salmonid Population Parameters				Comments
			Abundance	Productivity	Diversity	Spatial Distribution	
Cedar River Mainstem	Restore riparian vegetation to provide sources of LWD that can contribute to the creation of pool habitat.	C5-C7, C229, C701-C702	✓	✓ ✓	✓		Enhanced food supply and habitat complexity support higher productivity and diversity
	Restore floodplain connectivity through setback or removal of dikes and levees, the addition of LWD to create pools, and planting riparian vegetation.	C17-C18, C208, C213-C214, C222, C228, C715	✓	✓ ✓	✓	✓	Enhanced habitat complexity and capacity associated with levee and dike removal enhances spatial distribution, diversity and productivity
	Protect water quality to prevent adverse impacts to key life stages from fine sediments, metals (both in sediments and in water), and high temperatures.	C12-C16, C710, C713	✓	✓ ✓			Clean water and sediments contribute to enhanced productivity and survival
	Minimize occurrence of road crossings to maintain floodplain connectivity.	C17-C18	✓	✓ ✓			Floodplain connectivity enhances water quality and quantity which enhance productivity
	Provide adequate stream flow to allow upstream migration and spawning by establishing in-stream flow levels, enforcing water right compliance, and providing for hydrological continuity.	C19-C24, C708	✓	✓	✓ ✓	✓ ✓	Enhanced base flows are a key to expanding spawning and rearing habitat, and increasing spatial distribution and diversity
	Protect forest cover throughout each of the sub-areas to maintain watershed function and hydrologic integrity (especially maintenance of sufficient base flows), and protect water quality.	C1-C3, C703, C706, C707, C720-C721	✓	✓ ✓			Cool, clean water is a prerequisite for high productivity
	Protect pool habitat and habitat features that support the creation of pools (LWD, riparian function, and channel connectivity).	C213-C215, C260, C601, C716	✓	✓ ✓	✓		Enhanced pool habitat and habitat complexity enhance productivity and diversity

Chapter 5: Actions to Achieve Our Goals

Area	Draft Conservation Hypothesis	Sample Action from Start list (see Chapter 9 for more information)	Viable Salmonid Population Parameters				Comments
			Abundance	Productivity	Diversity	Spatial Distribution	
South Lake Washington	Reduce bank hardening by replacing bulkheads and riprap with gently sloped, sandy beaches.	C27-C29, C275-C276, C729-C730	✓	✓ ✓			Unprotected banks allow natural processes which create habitat complexity and enhanced productivity
	Reconnect and enhance small creek mouths as rearing areas.	C39, C267-C268, C719, C721	✓	✓	✓	✓ ✓	Opening up new spawning and rearing habitat is a key to enhancing spatial distribution and diversity, leading to increased productivity
	Restore overhanging riparian vegetation.	C27-C29, C269-C270, C272, C729-C730, C736, C738	✓	✓ ✓			Enhanced overhanging vegetation enhances food supply and cools water, both important to enhanced productivity
	Reduce impact of docks to promote safe juvenile salmon migration and deter the aggregation of predators	C27-C29, C32-C33, C734-C735	✓	✓ ✓			Reduced predation increases early life stage survival and productivity
	Address predation effects at the mouth of the Cedar River and backwater area in lower Cedar River	C38, C269-C270	✓	✓ ✓			Reduced predation increases early life stage survival and productivity
	Reduce pollution and contamination inputs from marinas and industrial areas.	C39, C729-C730	✓	✓ ✓			Clean sediments and water contribute to enhanced productivity and survival
North Lake Washington Tributaries	Reduce pollution and contaminant inputs.	N18, N21-N23, N202, N236, N289, N702, N713, N720-N721	✓	✓ ✓			Clean sediments and water contribute to enhanced productivity and survival
	Reduce sediment inputs from bed scouring high flows.	N18, N23, N208, N211, N235, N242, N702, N704, N731	✓	✓ ✓			Controlling bed scouring flows prevents destruction of spawning habitat and enhances productivity

Chapter 5: Actions to Achieve Our Goals

Area	Draft Conservation Hypothesis	Sample Action from Start list (see Chapter 9 for more information)	Viable Salmonid Population Parameters				Comments
			Abundance	Productivity	Diversity	Spatial Distribution	
	Restore riparian areas to provide future sources of LWD that can improve channel stability and contribute to pool habitat creation, and reduce peak water temperatures.	N12, N206, N276, N703, N707-N709, N714, N721	✓	✓ ✓			Enhanced food supply and habitat complexity support high productivity
	Protect groundwater recharge sources to Cold Creek and their connection to Cottage Lake Creek and Lower Bear Creek.	N1, N6-N7, N10, N91-N93, N224, N256, N277, N719-N724	✓	✓ ✓			Clean, cold water and adequate flow support enhanced productivity
	Address channel confinement in Cottage Lake Creek and Lower Bear Creek.	N15, N201, N208, N211, N268, N272, N708	✓	✓ ✓			Unrestrained channels allow natural processes which create habitat complexity and enhanced productivity
	Protect water quality to prevent adverse impacts to key life stages from fine sediments, metals (both in sediments and in water), and high temperatures.	N18-N19, N21-N23, N202, N702, N713, N720-N721, N731	✓	✓ ✓			Clean sediments and water contribute to enhanced productivity and survival

The Comprehensive Action Lists and the Start-list

Using the Steering Committee guidance and Conservation Strategy described earlier in this chapter, working committees identified approximately 1,200 actions for Chinook salmon. These are referred to as “comprehensive lists” and are provided in Chapters 10 through 15 (See Appendix D for detailed methods). Chapters 10 through 13 include the comprehensive lists for each of the three Chinook population areas and the migratory/rearing corridors. The comprehensive lists include site specific projects only for Tier 1 and Tier 2 subareas. The comprehensive lists for land use and public outreach actions include detailed actions for Tier 1 and 2 subareas, and a broad list of actions for Tier 3 subareas (Chapter 14). As a result of the public review process, several actions were added to the comprehensive lists for further analysis in the future; these are located in Chapter 15. The comprehensive lists provide information about relative priority between the actions. Information about how these actions were prioritized is provided in the next section.

As the comprehensive lists were being finalized, the need for a different type of list became clear for several reasons:

- Need for a manageable list of top priorities to facilitate input from the public and the Forum on action lists and plan implementation
- Need for a list that shows the relationship between the three types of actions (land use, site-specific, and public outreach and education) and how they need to be integrated to address each technical hypothesis
- Need for a reasonable size list of priorities to begin implementing immediately

The Steering Committee approved criteria for development of the start-list; these criteria are provided in Appendix D. The start-list attempts to compile the land use, site-specific habitat protection and restoration projects, and public outreach and education recommendations into a single strategy list which focuses watershed priorities yet also provides a manageable number of actions. The Start-list consists of 170 actions, and focuses primarily on Tier 1 subareas, with a small number of actions in Tier 2 subareas. There are about 30-60 actions for each of the three Chinook populations, and an additional 38 for the nearshore and migratory corridors. Except for four actions added to the start-list by the Steering Committee in response to the public review process, the Service Provider Team generated the start-list by applying the criteria approved by the Steering Committee to the comprehensive lists. Thus, while the original actions on the comprehensive lists were generated through the stakeholder input process described above, the start-list was not cycled back for subsequent review by these working committees.

The Steering Committee recommends that the action lists generated by the process be used as follows:

Comprehensive Lists

- Use throughout the process to identify and implement actions
- Offer priorities for stakeholders and jurisdictions to implement locally
- Provide action details to implementers
- Provide source for input to start-list over time

Start-list

- Provide manageable list to facilitate input from public and Forum on action lists and plan implementation
- Provide manageable list for immediate implementation of actions
 - Use to generate and approve SRFB and KCD grants and other regional funding for first ten years
- Use as adaptive management tool
 - Run actions through the treatment phase of the EDT model to provide information on the relative effectiveness of recommended actions
 - Provide start-list for adaptive management that can be revised based on new information from the EDT model, monitoring results, etc.

To aid the reader, the actions on each list have been numbered. The comprehensive lists in Chapters 10 through 13 were used as the basis for the numbering system. To differentiate action recommendations between populations, the following alphanumeric system was established:

Actions for Cedar population are denoted by C#. Example: C105

Actions for the NLW population are denoted by N#. Example: N104

Actions for Issaquah population are denoted by I#. Example: I118

Actions for Migratory/rearing Corridor are denoted by M#. Example: M150

To differentiate between types of actions (land use, site-specific, or public outreach) within geographic subareas, the actions are differentiated as follows:

- Land use actions are numbered from 1-160
- Site-specific actions are numbered from 200-599
 - Basinwide recommendations are numbered from 600-699
- Public outreach and education are numbered from 700-750

Example:

- C18 denotes land use action for the Cedar population
- C250 denotes site-specific action for the Cedar population
- C730 denotes public outreach and education action for the Cedar population

The actions in the start-list use the same numbering system, so the reader can find more information for an action on the start-list by using the reference number to find it on the comprehensive lists in Chapters 10 through 13.

How Individual Actions on the Comprehensive Lists were Prioritized

As noted above, the conservation strategy provides guidance for the type of habitat actions and where actions are needed. This guidance was used for the prioritization of actions at a more detailed level by the working committees, who evaluated and/or prioritized identified actions using the following additional criteria approved by the Steering Committee:

- Extent to which furthers the conservation strategy (benefits to Chinook)
- Feasibility/implementability (technical, community and local support)

Due to the nature of the three types of actions (land use, site-specific, public outreach and education), the results of the prioritization process vary. For example, public

outreach and site-specific actions have been ranked as high, medium, or low (see Appendix D for full description of methodology). The site-specific actions have been prioritized at the greatest level of detail.

Prioritization of Land Use Actions

Land use actions were developed by local planners and other stakeholders based on the technical hypotheses identified in the conservation strategy. The actions reflect local knowledge and experience about types of land use tools that are likely to be adopted and implemented, but the actions were not prioritized. While individual actions were not prioritized, the Technical Committee gave general guidance on the relative importance of land use actions based on subarea condition. The Technical Committee said that while protecting forest cover, riparian cover, and water quality are all important, where forest cover is intact the most important action is to maintain that forest cover so that hydrologic processes are maintained and the potential for adverse water quality impacts is minimized. However, in situations where there is degraded forest cover there is less opportunity to restore via landscape processes – in these situations riparian buffers become especially important. Similarly, if forest cover and riparian cover are both degraded, stormwater management actions to maintain water quality and quantity become critical.

As noted above, the Steering Committee asked for land use actions for Tier 1 and 2 subareas that could be applied by jurisdictions on a voluntary basis, and a menu of land use actions for jurisdictions to consider, that could be applied WRIA-wide. The Tier 1 and 2 land use actions are part of the comprehensive lists (and start-list) found in Chapters 9 through 13. Chapter 14 provides general land use recommendations for Tier 3 subareas. The menu of land use tools, located in Appendix D (Part 5), is organized by scientific outcome, and describes actions by implementation and feasibility criteria. Part 6 of Appendix D provides references about critical areas, stormwater management, low impact development (including BMPs, demonstration projects, and example ordinances), and Shoreline Master Programs. These references are provided for informational purposes only, because many stakeholders requested examples and resources on land use topics.

While the Chinook conservation strategy provides detailed information about salmon habitat protection and restoration priorities, and examples of buffer standards are provided in the references, the Plan does not set specific buffer standards. The Steering Committee and WRIA 8 Technical Committee did not want the Plan to provide specific buffer recommendations, nor was it feasible to do so, given the broad range of landscapes and development conditions across the watershed. Rather, it was acknowledged that individual jurisdictions should develop their own best available science (using the conservation strategy as one of a number of resources) and then develop their own buffer standards based on their BAS.

Prioritization of Site-specific Projects

Protection and restoration projects were prioritized using the conservation strategy described in Chapter 4, the Ecosystem Diagnosis and Treatment (EDT) modeling results, and professional opinion of subarea experts about the benefit and feasibility of potential projects. Protection and restoration projects were identified and listed separately because they are treated differently by the EDT model. The protection and restoration projects were also prioritized using similar, but different criteria.

The prioritization of potential **protection** projects is based on:

- The tier of the subarea
- The EDT results for the subarea reaches (the habitat index) AND/OR whether or not the project/reach has been identified as a priority by an existing science-based habitat protection program, such as Waterways or Cedar River Legacy
- How the proposed habitat protection projects are rated by subarea experts and WRIA 8 Technical Committee members on their benefit to Chinook and feasibility or ease of implementation.

The prioritization of potential **restoration** projects is based on:

- The tier of the subarea
- The EDT restoration potential of the subarea reaches
- How the proposed habitat protection projects are rated by subarea experts and WRIA 8 Technical Committee members on their benefit to Chinook and feasibility or ease of implementation.

To aid implementers, the site-specific action lists are provided in Chapters 10 - 13 using two methods: the first site-specific list shows the actions in order of priority based on the priority of the stream or lake reach, benefit to Chinook and feasibility. The second site-specific list lists the actions in order of geographic location, e.g., from the lower reaches of a stream up to the upper reaches of the stream. In both cases, the actions are the same.

Prioritization of Public Outreach Actions

Public outreach actions were developed by the Public Outreach Committee based on the technical hypotheses in the conservation strategy. Actions were also evaluated according to a set of criteria, and actions for some Chinook populations have been generally prioritized based on these criteria (see comprehensive lists). The following criteria were used to qualitatively evaluate public outreach actions:

- Desired scientific outcome based on an identified habitat condition: recommended outreach actions focus on those conditions that can be modified through outreach and education
- Target audience: those who have the most control over a particular habitat condition and those who could make changes that would have the greatest impact on restoration and/or protection efforts (e.g., shoreline property owners)
- Proven track record or model: outreach strategies that have been tried before or are based on existing models may have a higher success rate or may be easier to implement than newly hatched ideas
- Level of financial commitment: based on a relative scale of resource investment (high, medium, low)
- Implementation at local or WRIA-wide level: “Local” actions could be carried out by individual jurisdictions as soon as they are willing and able; they do not require coordination of all the partners to put into effect. However, for some outreach efforts that require large financial commitment or ones that might necessitate major behavioral changes, the leveraging effects of a “WRIA-wide” effort might prove more effective.

Public Review Comments on Action Lists

Numerous comments during the public review process addressed actions, including support for specific actions, proposed additions or deletions, and comments on the

general approach taken to develop and prioritize actions. Specific action changes made as a result of Steering Committee review of public comment are described in Appendix A.

Comments on land use actions addressed a range of policy issues. A number of commenters expressed concern for the following issues:

- The plan should promote low impact development to minimize the impacts of population growth on salmon habitat
- The plan should emphasize enforcement of existing and/or proposed actions
- Land use actions should be eligible for regional funding
- Land use actions should not create a new bureaucracy, rather they should build on existing initiatives

Several issues for which commenters expressed a range of opinions on land use include:

- The plan should have stronger regulations... There should be less emphasis on a regulatory approach
- The plan should not inhibit urban growth.... The plan should limit urban growth

The Steering Committee decided that the range of comments supported the overall approach to land use which provides a wide of range of actions (incentives, regulations, etc.). As noted, specific changes approved by the Steering Committee are found in Appendix A.

Context and Relationship to Other Programs/Processes

Many programs, projects, and laws are already in place to protect or restore salmon habitat in WRIA 8, and were considered in development of this plan. These initiatives are implemented in the context of a heavily urbanized and densely populated watershed. Approximately 55% of the land area of the WRIA lies inside the Urban Growth Area (UGA). The WRIA's population in 2002 was approximately 1.3 million people; the projected population for 2022 is 1.6 million. (See appendix D, Part 4 for population data for all WRIA jurisdictions, in 2002 and projected for 2022).

Salmon habitat is directly and indirectly affected by the Growth Management Act (GMA), stormwater programs, water rights, and other state, local and federal initiatives. The land use actions in the draft plan build on these initiatives and recommend changes and additions where existing efforts do not go far enough in protecting or restoring salmon habitat. Several regulatory and programmatic efforts already under way, which will have a significant impact on habitat, include:

- Comprehensive plans are being updated to incorporate revised 20 year growth targets, as required by GMA – by December '04
- Critical (or sensitive) areas ordinances are being reviewed and revised based on Best Available Science (BAS), as required by GMA – many jurisdictions will complete by December '04
- Shoreline Master Programs (SMPs) are being updated to incorporate Washington Dept. of Ecology's revised guidance, based on the schedule adopted by 2003 State Legislature: Snohomish County by 2005; King Co. and cities over 10,000 by 2009 (although a number of jurisdictions are revising their SMPs now); all other cities linked to GMA compliance cycle between 2011 – 2014

- NPDES Phase 1 and Phase 2 municipal stormwater permits – Washington Department of Ecology expects to develop Phase 1 and 2 permits by spring 2005; jurisdictions will need to adopt permits during 2005

The lists of site specific habitat and restoration projects in the plan's comprehensive lists draw on many years of watershed planning in WRIA 8. Watershed plans have been completed for many parts of the watershed including the Cedar River (lower and upper), Bear Creek, Issaquah Creek, Lake Sammamish, and the Sammamish River. There are also habitat protection programs that have been identifying and protecting best remaining habitat in many parts of the watershed, including Bear Creek Waterways, Issaquah and Lake Sammamish Waterways, and Cedar River Legacy. Many of the potential habitat protection projects included in this draft plan were first identified by one of these programs. The U.S. Army Corps of Engineers Lake Washington/Ship Canal General Investigation Study has also been a source of potential projects and will ultimately be a source of potential funding for design and construction of habitat restoration projects in the future.

WRIA 8 has a strong history of salmon-related outreach and education programs at the federal, state, and local levels. Local examples include: King County and Snohomish County basin stewardship programs, Seattle Urban Creeks program, and the Bellevue Stream Team. The proposed public outreach actions build on and reinforce key messages of these and other programs that have common goals. Important messages that will be conveyed by WRIA 8, which are consistent with other local and regional messages, include:

- Water conservation promoted by natural yard care programs and the utilities (power, water, wastewater treatment) and relation to salmon conservation
- Pesticide reduction promoted by King Co. Local Hazardous Waste Management, Natural Yard Care, health care industry, vets (for pet health), fishing industry, restaurant industry and relation to salmon conservation
- Increased use of native plants by stream teams, community outreach programs, natural yard care, native plant salvage, noxious weed programs and relation to salmon.

The Steering Committee mission and goal statements state that while the Plan should focus on habitat, it should also encourage appropriate reforms in harvest and hatchery practices, management of non-native species, and other activities outside of its direct control, which may be necessary for successful conservation of salmon. This Plan recommends actions that would need to be carried out by agencies other than participating jurisdictions, such as actions that address harvest and hatchery practices, and actions that would be implemented by Washington State Department of Transportation and Washington Department of Ecology. Harvest and hatcheries will be integrated with habitat actions by Puget Sound Shared Strategy through the regional, larger ESU-scale recovery plan. Because local governments do not have the means nor the authority to implement all the actions necessary to protect and restore salmon habitat in WRIA 8, the Steering Committee recommends that recovery of salmon be undertaken by a broad partnership that reaches beyond local governments to include citizens, homeowners, community groups, non-profit agencies, businesses, developers, public agencies, and the co-managers. Recommendations regarding who can help implement the action recommendations are provided in Chapter 8. Options for funding implementation of the actions are discussed in Chapter 7.

Additional Opportunities for Collaborative Partnerships

In addition to the actions on the comprehensive and start lists, there are a number of opportunities for local jurisdictions to collaborate on actions and for public/private partnerships within and across WRIAs. A preliminary list of collaborative land use actions includes:

- Promote regional (cross-jurisdictional) stormwater planning and facilities construction
- Work with Washington Department of Ecology (Ecology) to explore the feasibility of a WRIA-wide NPDES permit in the future. King County has initiated discussions on this idea. The city of Seattle is encouraging jurisdictions to work together on their stormwater and drainage code amendments to reduce costs for local agencies, resolve similar stormwater management issues, and negotiate together on similar issues with Ecology on NPDES permits.
- Promote demonstration projects of low impact development (LID) features, monitoring of such projects, and cross-jurisdiction training for planners, developers, and others on technical, financial, and marketing aspects of LID projects
- Promote salmon-friendly bulkhead, shoreline, and dock demonstration projects on public property in most jurisdictions around Lake Washington and Lake Sammamish. Such projects will gather practical experience and demonstrate how these altered dock and bulkhead designs can actually work. Use findings from these projects to promote proposals for expedited permitting for local, state, federal permits related to shoreline structures.
- Collaborate on Shoreline Master Program updates, and other regulatory and policy revisions, using the WRIA 8 conservation strategy as part of Best Available Science. Seattle's "Restore our Waters" strategy includes coordination among twelve city departments to establish priorities to address habitat, water quality, and flows in an urban setting, and illustrates the potential for similar priority setting and coordination across jurisdictions and between public and private partners.
- Encourage jurisdictions to cooperate on flexible development tools such as mitigation banking and transferable development rights (TDRs). Such tools require cooperation between subareas and jurisdictions to benefit both developed and undeveloped areas.
- Develop consistent guidelines for landscaping certification programs
- Share lessons learned about enforcement, and related education about laws and their purposes, to improve enforcement across jurisdictions
- Fund and provide technical support for maintenance of public and private lands which have been set aside for protection of natural functions. As the number of protected lands increases, the need increases for sharing information and staff, based on models which work efficiently and over long time periods to steward and monitor these lands to insure that their ecological functions remain in tact (e.g., Cascade Land Conservancy in Redmond Ridge).
- Research extent and impact of withdrawals, including exempt wells and illegal withdrawals. This will require collaboration among Ecology, local health and permitting agencies, water suppliers, developers, and homeowner associations.

Insert lower cedar graphic

Insert middle cedar graphic

Insert North lake Washington graphic

Insert Issaquah graphic

Insert migratory graphic

